

# TOWN OF ROLESVILLE

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## **Addendum #3 Issued November 14, 2018**

Addendum #3 provides answers to the questions raised at the prebid meeting on October 30, 2018 and other questions from bidders as of November 14, 2018.

A revised Schedule of Prices is attached with additional pay items due to questions that were asked. Use the revised Schedule of Prices date November 14, 2018 for the bid submittal. The pavement marking plans for Granite Falls Blvd are attached. Delete Section 1.8 in the Project Special Provisions, a job site trailer is not required.

Questions and answers to bidders' questions:

1. On sheet CE4-What is size of utility vault? Where is it to be relocated? Confirm if this is utilities responsibility or part of general contractor's work.

The utility vault and pedestal on sheet CE4 are owned Century Link and they have been moved close to the RW line and are not part of the general contractor's work.

2. Can HPDE double wall be used in lieu of RCP?

Yes, HDPE double wall (N-12) may be used for the storm drain pipe and must be installed according to the manufacturer's recommendations.

3. At blow-off connection will new valve be installed or will existing be used?

The plans are showing an existing valve and that valve will be used.

4. Have costs and quantities related to rock been estimated or provided?

The Schedule of Prices includes estimated rock quantities and these may vary based the actual field conditions and measurements.

5. Who are the utility owners?

The utility owners that the town is aware of are: Power is provided by Wake Electric, Cable is Century Link, Gas is PSNC, Water/Sewer is City of Raleigh

6. Are there any potential options for time extension due to weather/rock? Considerations for weather delays are included in project documentation. Time extensions related to rock and any other issues will be reviewed for consideration.

7. Are there any options to relocate utilities due to depth of rock?

An allowance of \$20,000 is included to do some exploratory excavation that may help in avoiding rock. If the rock can be minimized then town will pursue relocation and work with Raleigh on revised plans.

8. Does the project have federal funding? Is certified payroll required?

No, the project does not require certified payroll.

9. What is HUB/MBE Participation requirement?

The bid documents have a goal of 15% as noted on page BD 37.

10. Expectations when addenda/prebid minutes will be posted?

The prebid replies will be posted on November 14, 2018 on the Town's web page and emailed to interested bidders.

11. Striping plan on existing Granite Falls Blvd; is this to be a separate bid or will these be bid as one project?

A striping or pavement marking plan for Granite Falls Blvd is included in the plan set and please note the bike lane marking goes to Young Street. Additional pay items have been added to the Schedule of Prices. A lump sum pay item is shown for the removal of the existing pavement markings on Rogers Road. Bike lane plans are attached to this addendum.

12. Please provide fine grading on bid form.

A line item for fine grading under the paving section has been added to the Schedule of Prices.

13. Stormwater ponds part of grading or fine grading?

General Contractor should install as initial construction for operational use during construction then these are to be converted to permanent wet stormwater ponds as shown on plans. The cost of building the ponds and the later conversion to wet ponds should be included in those particular bid items.

14. Street light installation information is for coordination purposes with Wake Electric. Conduit required for lighting will be part of contract.

This information will be included as a line item on bid form.

15. Are there existing utilities in place that needs to be considered?

Only at connections with Rogers Road and Granite Falls Blvd at Grand Rock Way.

16. Anything at Rogers Rd that needs to be relocated?

Century Link has already moved their items, PSNC has approved to paving over and electric is overhead.

17. Is there an existing survey stakes to show location of street or limits?

The centerline was marked and is still partially staked.

18. Who will provide Construction Material Testing?

TerraTech will be providing construction material testing on behalf of owner.

19. Who did original soils report?

TerraTech and the report is included in the bid documents

20. Are bonds required for the project?

Yes, payment and performance bonds

21. Can bid form be provided in a spreadsheet?

The excel version of the Schedule of Prices will be emailed separately to the bidders

22. Purpose in ductile pipe?

Due to depth. If required cover can be met then engineer will review options to change. Transition is from manhole to manhole.

23. Can Manholes be brick or is Precast required?

All City of Raleigh sewer and water manholes shall be precast. In terms of the stormwater catch basins, brick or block material is allowed and all work on the project must follow NCDOT requirements.

24. Truncated sidewalks and ramp ups?

Refer to the NCDOT details on sheet CE 10

25. Return curbs at sidewalk ramps

Refer to the NCDOT details on sheet CE 10

26. Is there an existing valve at Rogers Rd?

No and the plans show a tapping sleeve and valve for the connection.

27. Will tie in at water line at Grand Rock Rd be at Blow off?

Plans indicate a valve at the end of water main just past Grand Rock Way, contractor can remove blow off and tie in at existing valve.

28. Are standards for City of Raleigh to be followed for water and sanitary sewer utilities?Yes

29. Is there a traffic control plan for Rogers Rd widening?

There is not a traffic control plan. Contractor shall follow the NCDOT requirements for handling traffic in a work zone. A lump sum bid for traffic control has been added to the Schedule of Prices.

30. Is there a noise ordinance?

The Town has a noise ordinance that restrict the amount of noise from 6PM to 7AM.

31. Times allowed for construction work to be performed?

The Project Special Provisions defines the working hours as 8AM to 5PM, Monday through Friday. The Town is willing to entertain some variation of the working hours and possible Saturday work in order to facilitate the construction of project.

32. Is there an option to work Saturday?

The Town will consider Saturday work for certain tasks in order to facilitate the construction of project. Drilling and blasting activities will not be allowed on Saturdays.

33. Are there any issues with access for residents or businesses?

Grand Rock Way needs to be kept open so that residences can access the properties and school students and parents can access Thales School. Contractor shall prohibit employees and vendors from parking on Grand Rock Way and the existing section of Granite Falls Blvd. No construction material shall be stored on Grand Rock Way or existing Granite Falls Blvd.

34. Are quantities available for striping plan on existing road from Rogers to Young?

They are listed in the Schedule of Prices.

35. Is there an option to allow more time for signal work at Rogers and Granite Falls Blvd?

It is the Town's goal to have this project completed by the end of June 2019 so Thales School traffic can be handled by the new collector street. Thales School's Fall session will begin on July 15, 2019. The street project needs to be completed in 150 calendar days with the signal of wood poles. If the Town selects Alternate Bid #1 (signal with steel poles) the town may grant an additional 90 calendar days for completion of the signal work.

36. Functionality and schedule?

It is the Town's goal to have this project completed by the end of June 2019 so that Thales School traffic can be handled by the new collector street. Thales School's Fall session will begin on July 15, 2019. The contract time for the project is 150 calendar days.

37. Which will base bid, Wood or Steel signal poles?

The base bid for the project includes all roadway work and the traffic signal installation with wooden poles. The alternate bid #1 will be the traffic signal installation with steel strain poles.

38. Award will be Base bid plus any alternates selected?

Yes, the Town may choose an alternate bid amount depending on project cost.

39. Are provisions for Pearce property related items listed in bid documents?

The Pearce property items are listed in the Special Project Provisions section 1.23.1 and in this reply. Related to the trees on the Pearce property, those trees have been marked in the field and there are approximately 50 trees to be cut into timber lengths and stacked on his property. The Pearce related work will be covered by the clearing line item.

40. Are blasting permits required?

Yes, blasting permits are required by the Town and Wake County. All bidders need to review the related use of explosives/blasting requirements in the bid documents in Sections 02300 and 02315. The Town is adding Section 220, Blasting, from the NCDOT 2012 Standard Specifications to the bid documents for additional clarification. The contractor shall have the responsibility to notify all surrounding properties owners and residents within 1000' of the blasting area that blasting will be taking place at least 2 weeks prior to beginning that phase of work. Pre-blast condition assessment and vibration monitoring will be provided by a third-party firm and paid by the allowance for third party testing.

41. Silt fence for stockpile, leave or remove?

If all of the stockpile material is not used on the job the silt fence will remain.

42. Is laydown area on Pearce property already cleared or will this need to be done as well?

The laydown area on the Pearce property is included in the clearing limits for the job.

43. Are trees that are outside of limits of disturbance to be cut?

No, just the trees in the clearing limits.

44. What about existing pile of stone located parallel to the road centerline?

There is a line item in the Schedule of Prices called Haul off boulders with an approximate 750 CY of material, this is to be removed from the site. An alternate bid item is being added to the Schedule of Prices that calls for a temporary crusher on site to crush the boulders and trench/mass rock and use as fill material. The crushed rock shall be 2-inch stone or smaller in order to reduce voids and gain compaction.

45. Construction sequence? Is Granite Falls Blvd to be completed before Rogers Rd widening? Pearce access appears to be closed, how will they have access?

Granite Falls Blvd shall be completed with the first lift of asphalt to station 12+00 in order to relocate the Pearce driveway to Granite Falls Blvd. so the property has access before starting the widening on Rogers Road. The selected contractor can refine this process in their construction schedule.

46. On the current bid form for the above-mentioned project there are no line items under Storm Drain for 24" RCP. Also, under Storm Drain section bid item #42 Install FES there

are 18" & 24" FES's, don't think you want these combined? Also, not clear on what you are wanting for bid items #47 & #48 under Storm Drain as well? Please advise. Also, your 15" RCP pipe footage seems pretty high? I came up with roughly 385LF of 15" RCP CL III and roughly 16LF of 15" RCP CL IV. Let me know your thoughts. There is no bid item for Sanitary Sewer Clean Outs?

The schedule of prices has been revised and include the items mentioned. There will be line items for 15", 18" and 24" FES. A line item for 6" sewer cleanout has been added. The storm pipe footages are now 15" RCP, Class III is 462', 18" RCP, Class III is 179' and 24" RCP, Class III is 185' and 15" RCP, Class IV is 82'.

Additional information about the conversion of the sediment to SCM's:

"At the end of the roadway construction the sediment basins will be need to be clean of all accumulated sediment and properly disposed of offsite. Wake County inspector should be consulted about the timing of the conversion and the contractor shall follow the instructions for the Wake County inspector. The sediment basins will be regraded to the shape and elevations shown on Sheet CE6 and the Wet Detention Details shown on Sheet CE 13. After regrading of the basins and making the modifications to the risers, the contractor will do the final plantings for the basins. Wake County inspector will inspect and issue final approval of the conversion work."

Additional questions and replies from November 14, 2018.

1. Can we perform a test dig?  
Yes, the town will need to notify the owner to let them know ahead of time. Let me know when you want to dig and I will handle.
2. On the schedule of prices, the Mobilization item is designated as 4% of Bid price, in the Unit Prices section of the bid documents it is designated as 3% of the Bid Price, which is correct?  
3% is correct and that will be in the next addendum
3. If rock is encountered in the sediment basins, will that be covered under Item #14-Mass Rock?  
That will be covered as mass rock
4. Can a separate bid item for Survey & Stakeout be added?  
No, that is a contractor cost and is part of the job.
5. Can a separate bid item for Testing be added?  
The town will do the material testing and if any test fails the follow up testing will be a contractor cost.
6. Article 1.8 in the Project Special Provisions is requiring a construction trailer for the project, can a separate bid item be set up for this?  
The construction trailer will not be required and be included on the next addendum.
7. Can a Traffic Control item be added for the widening work on Rogers Road?  
A line item for that will be added on the next addendum.
8. There is no detail for the gravel driveway that needs to be installed to the Pearce property, what are the dimensions of the driveway (Width and Depth of Stone) and under which item is this work to be paid?  
The gravel drive is 12' wide with 6" of stone and will flair to 25' within 50' of the driveway ramp and this is part of the next addendum.

9. How is the final quantity to be determined for Item #10-Strip 6" Topsoil? Survey of the pile? Load count?  
**The Town will either do by survey or load count and will decide prior to start of construction.**
10. How is the final quantity to be determined for Item #11-Site Cut to Fill? Survey of the site after stripping compared to final survey? Load count?  
**The Town will either do by survey or load count and will decide prior to start of construction**
11. How is the final quantity to be determined for Item #12-Import Borrow? Survey of the site after excavation compared to final survey? Load count?  
**The Town will either do by survey or load count and will decide prior to start of construction**
12. How is the final quantity to be determined for Item #13-Haul Off Boulders? Survey of the existing pile? Load count?  
**The Town will either do by survey or load count and will decide prior to start of construction**
13. Is the TV Inspection of the sewer mains to be included in Item #39, or can a separate item be added for this?  
**The Town has paid the TV inspection fee to Raleigh**
14. Is TV Inspection of the Storm Water System going to be required? If yes, can an item be added for this?  
**No, not required**
15. Item #50-24' Driveway Ramp, there is no detail, are we to use NCDOT 848.02 for this? Is the 6" sidewalk that goes behind the apron to be included in this item?  
**Yes, use NCDOT detail 848.02 and 6" sidewalk is a separate line item**
16. The typical section on plan sheet CE-10 shows 1-1/4" S9.5B and 1-1/4" S9.5B, the Schedule of Prices indicates 2.0" S9.5B and 1.0" S9.5A, we are assuming the Schedule of Prices is correct, please verify!  
**The schedule of prices is correct.**
17. Item #51 indicates that 3.5" of stone under the curb is to be included in that item, in the widening area there will be portion of curb that has 10" ABC under it and there will be a portion of curb that has 5" B25.0B under it. Are we to include the 10" of ABC and the 5.0" of B25.0B under the curb in the curb item or will those quantities be paid under their respective items 58 & 64?  
**Rogers Road will be paid under items 58 and 64. Item 51 is for Granite Falls**

**Section 220**

1 **215-4 DISPOSAL**

2 Unless otherwise indicated in the contract, all materials recovered during demolition become  
3 the property of the Contractor to remove from the project. Disposal by burning is permitted,  
4 subject to applicable sections of the *Standard Specifications*, State and local ordinances.

5 Dispose of materials and debris in accordance with Section 802.

6 **215-5 MEASUREMENT AND PAYMENT**

7 There will be no direct payment for removing the buildings listed in the contract. Payment for  
8 this work will be included in the contract lump sum price for *Clearing and Grubbing*.

9 Where underground storage tanks are indicated in the contract, there will be no direct  
10 payment for the assessment or closure. Payment for this work will be included in the contract  
11 lump sum price for *Clearing and Grubbing*.

12 As an exception to the above, when the description of the work covered by a particular  
13 building removal item does not contain information concerning the presence of asbestos  
14 material or UST and the asbestos material or UST are discovered after the opening of bids, the  
15 Engineer may have the work performed by others or the cost of removal and disposal of such  
16 asbestos material or UST will be paid in accordance with Article 104-7.

17 **SECTION 220**  
18 **BLASTING**

19 **220-1 DESCRIPTION**

20 Use blasting as needed to excavate, break up or remove rock, construct stable rock cut slopes  
21 and for other approved reasons. This section applies to all types of blasting including  
22 production, controlled, cushion, trim, trench and secondary blasting except blasting adjacent  
23 to highway structures. See Article 410-9 for blasting adjacent to highway structures. Provide  
24 blasting plans, blast monitoring and post-blast reports as necessary or required. Perform  
25 blasting in accordance with the contract, accepted submittals and as directed. Use  
26 a prequalified Blasting Contractor for blasting.

27 **220-2 MATERIALS**

28 Refer to Division 10.

<b>Item</b>	<b>Section</b>
Coarse Aggregate	1005

29 Use coarse aggregate (standard size No. 67 or 78M) for stemming.

30 **220-3 CONSTRUCTION METHODS**

31 Notify the Engineer and all occupants and owners of residences, businesses and utilities near  
32 where blasting will occur of the intention to use explosives. Inform the Engineer, occupants  
33 and owners of blasting at least 48 hours before each blast. When blasting in the vicinity of  
34 an open travelway, provide traffic control in accordance with the contract and Section 1101.

35 Control blasting to avoid endangering lives or damaging property. The Contractor is  
36 responsible for any injuries and damages due to blasting in accordance with Article 107-11  
37 except for damage to wells and springs, unless the Contractor did not use reasonable care to  
38 prevent such damage. Exercise the utmost care when blasting near sensitive environmental or  
39 populated areas, urban or sensitive communities or historical structures. Comply with all the  
40 latest applicable Federal, State and local codes, laws and regulations, as well as professional  
41 society standards for the storage, transportation and use of explosives. Keep a copy of all  
42 regulations on site and in case of conflict, the more stringent applies.

1 The Blaster-in-Charge has authority over the handling, use and security of explosives and is  
2 responsible for designing, planning, coordinating, supervising and monitoring blasting.  
3 Assign a Blaster-in-Charge to the project that has at least 5 years of experience with blasting  
4 similar to that anticipated for the project. Use a Blaster-in-Charge approved as a Blaster-in-  
5 Charge (key person) for the Blasting Contractor. The Blaster-in-Charge or designated  
6 Assistant Blaster-in-Charge shall be on site during blasting.

7 When blasts will be within 1,000 ft of a utility, house, residence, building, business or any  
8 other structure, a blasting plan and blast monitoring that meet Subarticles 220-3(B)  
9 and 220-3(C) are required. Otherwise, provide a blasting plan and monitor blasts as needed.

#### 10 **(A) Vibration and Air Overpressure Limits**

11 Define “peak particle velocity” (PPV) as the maximum ground vibration velocity  
12 measured in any direction. Design blasts so the PPV at any utility or structure does not  
13 exceed the “Alternative Blasting Level Criteria” from Appendix B of the *U.S. Bureau of*  
14 *Mines Report of Investigations 8507*. Design blasts so the maximum air-overpressure at  
15 any structure does not exceed 133 dB (linear).

16 If the PPV or air overpressure limits are exceeded at any utility or structure in any  
17 direction from blasts, the Engineer may suspend blasting until the post-blast report is  
18 reviewed and a new or revised blasting plan is accepted.

#### 19 **(B) Blasting Plan**

20 When required, submit the proposed blasting plan signed by the Blaster-in-Charge for all  
21 blasting for acceptance. Acceptance of this plan does not relieve the Contractor of  
22 responsibility and liability for blasting in accordance with the contract.

23 Submit 2 copies and a PDF copy of the blasting plan at least 30 days before starting  
24 blasting. Do not deliver explosives to the project site or begin blasting until a blasting  
25 plan is accepted. Submit one copy to the Resident Engineer and the other copy and PDF  
26 copy to the appropriate Geotechnical Engineering Unit regional office. Provide detailed  
27 project specific information in the blasting plan that includes the following:

- 28 (1) Work procedures and safety precautions for storage, transportation, handling and  
29 detonation of explosives;
- 30 (2) Explosive products and devices for dry and wet blast holes including explosives,  
31 primers and detonators with MSDS;
- 32 (3) Drilling equipment including methods for maintaining blast hole alignment;
- 33 (4) Typical plan, profile and sectional views for blasting showing blasting limits, blast  
34 hole diameters, depths, inclinations and spacing, burden, subdrill depths and  
35 minimum and maximum charge per delay;
- 36 (5) Initiation and delay methods and delay times;
- 37 (6) Equipment and procedures for blast monitoring with calibration certificates dated  
38 within one year of submittal date; and
- 39 (7) Post-blast report format.

40 If alternate blasting procedures are proposed or necessary, a revised blasting plan  
41 submittal may be required. If blasting deviates from the accepted submittal without prior  
42 approval, the Engineer may suspend blasting until a revised plan is accepted.

## Section 220

### 1 (C) Blast Monitoring

2 If necessary or required, monitor blasts using seismographs capable of measuring air  
3 overpressure and vibration in the vertical, longitudinal and transverse directions. At  
4 a minimum, monitor vibration and air-overpressure at the closest utility or structure to  
5 each blast and the closest utility or structure in the direction of each blast in accordance  
6 with the accepted blasting plan. Include the following in post-blast reports for each blast  
7 monitoring location:

8 (1) Type, identification and specific location of seismograph,

9 (2) Distance and direction from blast,

10 (3) PPV in each direction and peak vector sum, and

11 (4) Maximum air overpressure level.

### 12 (D) Blasting Requirements

13 Before beginning drilling, a pre-blast meeting may be required to discuss the blasting and  
14 if applicable, blast monitoring. Schedule this meeting after any blast plans have been  
15 accepted. The Resident or District Engineer, Roadway Construction Engineer,  
16 Geotechnical Operations Engineer, Contractor and Blaster-in-Charge will attend this pre-  
17 blast meeting.

18 Drill and blast in accordance with the contract and if applicable, the accepted blast plan.  
19 Use explosives in accordance with all applicable government regulations, professional  
20 society standards and manufacturer guidelines and recommendations. Do not allow  
21 ammonium nitrate fuel oil (ANFO) to leach into bodies of water.

22 Before blasting for excavations, remove all overburden material along top of excavations  
23 for at least 30 ft beyond blasting or rock limits, whichever is less. Inspect any free faces  
24 to ensure adequate burden. Drill blast holes within 3" of plan location and maintain hole  
25 alignment when drilling.

26 Cover blast holes after drilling to prevent unwanted backfill and identify and mark each  
27 blast hole with hole number and depth. Blast holes shall be free of obstructions the entire  
28 depth. Load blast holes without dislodging material or caving in hole walls. Stem blast  
29 holes 5" or larger in diameter with No. 67 stone and blast holes smaller than 5" in  
30 diameter with No. 78M stone. Do not stem blast holes with drill cuttings.

31 Contain flyrock within construction limits. Use matting when blast monitoring or traffic  
32 control is required. Soil cover may be used instead of matting, if approved. If flyrock  
33 occurs outside the construction limits, the Engineer may suspend blasting until the post-  
34 blast report is reviewed and a new or revised blasting plan is accepted. When traffic  
35 control is required for blasting, have equipment standing by to remove material that  
36 interferes with traffic flow. Check for misfires immediately after each blast before  
37 signaling all clear.

38 Remove all loose, hanging and potentially dangerous material from rock cut slopes by  
39 scaling. The Contractor is responsible for the stability of rock cuts. If rock cuts are  
40 damaged during blasting, stabilize cuts to the satisfaction of the Engineer. Resume  
41 drilling only after scaling is complete. Adjust blast hole alignments to account for any  
42 drift occurring in preceding drilling or lifts.

43 Define "secondary blasting" as blasting to reduce the size of naturally occurring boulders  
44 or those resulting from initial blasting. Use an approved method for secondary blasting  
45 consisting of small explosive charges in small diameter blast holes. Define  
46 "mudcapping" as placing unconfined explosive charges in contact with rock without blast  
47 holes and covering charges with mud. Do not use mudcapping for blasting.

**(E) Post-Blast Report**

Submit 2 copies and a PDF copy of a post-blast report within 3 days of each blast or before the next blast, whichever is sooner. Provide post-blast reports signed by the Blaster-in-Charge that include the following:

- (1) Material data information about explosive products and devices including explosives, primers and detonators;
- (2) Scaled blast drawings with cross sections showing blasting limits, blast hole diameters, depths, inclinations and spacing, burden, subdrill depth, free face location and any joints, bedding planes, weathered zones, voids or other significant rock structure information;
- (3) Loading pattern diagram with location and amount of each type of explosive including primers and detonators;
- (4) Locations and depths of stemming, column heights and maximum charge per delay for each type of loading;
- (5) Delay and initiation diagram showing delay pattern, sequence and times;
- (6) Results and effectiveness of the blast and any proposed changes to subsequent blasting;
- (7) If applicable, blast monitoring results; and
- (8) Blast damage report when necessary.

**(F) Blast Damage Report**

If damage occurs from blasting, notify the Engineer immediately and submit a blast damage report with the post-blast report that includes the following:

- (1) Property owner's and injured person's, if any, names, addresses and telephone numbers;
- (2) Details and description of property damage and injury, if any, with photographs or video; and
- (3) Any associated tort claims, complaint letters and other applicable information.

**220-4 MEASUREMENT AND PAYMENT**

No direct payment will be made for blasting including blasting plans, blast monitoring, post-blast reports, scaling and stabilizing rock cuts.

No direct payment will be made for blasting for roadway excavation. Blasting for roadway excavation will be incidental to the contract unit price for *Unclassified Excavation* in accordance with Article 225-7 or the lump sum price for *Grading* in accordance with Article 226-3.

No direct payment will be made for blasting for any pipe, utility or foundation excavation. Blasting for these items will be incidental to the compensation for the excavation. Where no direct payment is made for excavation, blasting will be incidental to the work and no separate payment will be made for blasting.

## SECTION 225 ROADWAY EXCAVATION

**225-1 DESCRIPTION**

Excavate, place and compact or satisfactorily dispose of all materials encountered within the limits of the work necessary for the construction of the roadway that are not to be removed under another contract item.

**TOWN OF ROLESVILLE**  
**GRANITE FALLS BOULEVARD EXTENSION**  
**SCHEDULE OF PRICES Revised 11.14.18**  
**Granite Falls Blvd from Rogers Road to Grand Rock Way**  
**41' B to B Section**

Item	Description	Qty	Unit	Price	Total
<b>Mobilization</b>	<b>not to exceed 3% of bid price</b>	1	LS		
<b>Clearing</b>					
	Clear Complete Site/Haul Off debris, this line item covers the Pearce items in the Special Provisions, section 1.23.1	5.6	AC CY		
<b>Erosion Control</b>					
	Construction Entrance	1	EA		
	Silt Fence	3,500	LF		
	Silt Fence Outlets	7.0	EA		
	Temporary diversion ditch with matting	735.0	LF		
	Rock Check Dams	6.0	EA		
	Install Inlet Protection Devices and maintain	9.0	EA		
	Install Sediment Basin #1 and maintain	1.0	LS		
	Install Sediment Basin #2 and maintain	1.0	LS		
	Temporary Seed and Mulch	3.0	AC		
	Install Concrete washout basin	1.0	LS		
<b>Grading/Excavation</b>					
	Strip 6" topsoil and stockpile	1,824	CY		
	Site Cut to Fill	1,400	CY		
	Import Borrow	5,900	CY		
	Haul off boulders & properly dispose of offsite	750	CY		
	Mass Rock & properly dispose of offsite	1,000	CY		
	Trench Rock & properly dispose of offsite	500	CY		
	Undercut unsuitable material & properly dispose of offsite	1,700	CY		
	Import structural borrow	2,000	CY		
	<b>Allowance for third party testing related to blasting</b>	1	LS	\$ 25,000.00	\$ 25,000.00
	<b>Allowance for exploratory excavation to avoid rock</b>	1	LS	\$ 20,000.00	\$ 20,000.00
<b>Water System</b>					
	Remove Existing Blowoff & Tie To Existing 12" Waterline	1	EA		
	Install 12" DIP	1,562	LF		
	Install 12" GV and Box	5	EA		
	Install 12x12 Tapping Sleeve and valve	1	EA		
	Install 6" Gate Valve and Box	4	EA		
	12"x6"x12" Tee	6	EA		
	Misc. Fittings	500	LBS		
	Install City of Raleigh Fire Hydrant Assembly	5	EA		
	Adjust Existing Gate Valves at Grand Rock Way and Rogers Road	6	EA		
	Adjust Existing Fire Hydrant at Rogers Road	1	EA		
	Install 6" DIP Waterline	100	LF		
	Install 6" Temporary Blowoff assembly	2	EA		
	Install Temporary Blowoff for Testing	1	EA		
	Water Main Flushing and Testing	1	LS		
	Install 2" to 4" power conduit for roadway crossings for Wake Electric (conduit supplied by Wake Electric)	200	LF		
<b>Sanitary Sewer</b>					
	Tie to Existing Manhole	1	LS		
	Install 8" DIP, 0-6'	214	LF		
	Install 8" DIP, 6-8'	17	LF		
	Install 8" PVC, 6-8'	175	LF		
	Install 8" PVC, 8-10'	255	LF		
	Install 8" PVC, 10-12'	180	LF		
	Install 6" sewer cleanout	1	EA		
	Install 4" Dia Manhole, 6-8'	2	EA		
	Install 4" Dia Manhole, 10-12'	1	EA		
	Sewer Main Flushing and Testing	1	LS		
<b>Storm Drain</b>					
	15" RCP, Class III	462	LF		
	15" RCP, Class IV	82	LF		
	18" RCP, Class III	179	LF		
	24" RCP, Class III	185	LF		
	Install 15" FES	1	EA		
	Install 18" FES	2	EA		
	Install 24" FES	1	EA		
	Install RipRap Aprons at FES's	4	EA		
	Install Junction Box	2	EA		
	Install Curb Inlet	5	EA		
	Install Double Curb Inlet	2	EA		
	Convert Sediment Basin 1 to Wet Stormwater Pond 1, see details	1	LS		
	Convert Sediment Basin 2 to Wet Stormwater Pond 2, see details	1	LS		
<b>Curb &amp; Gutter</b>					
	Regrade Subgrade After Utilities	8,000	SY		
	25' Driveway Ramp	1	EA		
	30" Curb & Gutter with 3.5" of stone	3,400	LF		
	30" Curb & Gutter for Rogers Road	450	LF		
	Grade and Backfill Curb & Gutter	3,400	LF		
<b>Sidewalks</b>					
	5' wide Sidewalks 4" Thick	13,900	SF		
	5' wide Sidewalks 6" Thick at driveway ramp	160	SF		
	Double HC Ramps	2	EA		
	Single HC Ramps	6	EA		
	Grade and back fill sidewalks	3,500	LF		
<b>Paving</b>					
	Fine grading for roadway	1	LS		
	8" Base ABC	6,500	SY		

	10" Base ABC	315	SY		
	2" S9.5B	6,500	SY		
	1.0" S9.5A	6,500	SY		
	1.5" S9.5B	800	SY		
	3" S9.5B	315	SY		
	4" Binder I 19.0B	315	SY		
	5" Base B25.0B	85	SY		
	1.5" Milled Areas on Rogers Road	800	SY		
	Grade & Install 12' wide, 6" thick gravel driveway on Pearce Property, drive will flare to 25' within 25' of concrete drive ramp.	250	LF		
	Remove existing Pearce drive from drainage swale to Rogers Road	280	LF		
<b>PAVEMENT MARKINGS - Young St. to Rogers Bike Lane Addition</b>					
	Traffic control for restriping work	1	LS		
	4" wide Thermo Plastic solid white lane lines	6,193	LF		
	4" Skip Thermo Plastic	214			
	4" Mini-Skip Thermo Plastic	160			
	Bike Lane Symbol with Arrow Thermo Plastic	5			
	Bike Lane Symbol Thermo Plastic	6			
	Straight Arrow Thermo Plastic	16			
	Right Turn Arrow Thermo Plastic	2			
	Left Turn Arrow Thermo Plastic	4			
	Combo Straight/Right Turn Arrow Thermo Plastic	2			
	4" wide Thermo Plastic double yellow lines	3,567	LF		
<b>Remove and Replace</b>					
	Hi Vis Cross Walks Thermo Plastic	6	EA		
	School Crossing and Transverse Lines Thermo Plastic	2	EA		
	Stop Bar Thermo Plastic	2	EA		
<b>Remove Existing Markings</b>					
	Arrows (Turn, Straight, Combo)	14	EA		
	Lane Lines	7,830	LF		
<b>PAVEMENT MARKINGS - Rogers to Grand Rock Way</b>					
	4" wide Thermo Plastic solid white lane lines	1,437	LF		
	4" Skip Thermo Plastic	91	LF		
	4" Mini-Skip Thermo Plastic	45	LF		
	Bike Lane Symbol with Arrow Thermo Plastic	2	LF		
	Bike Lane Symbol Thermo Plastic	6	LF		
	Straight Arrow Thermo Plastic	6	LF		
	Right Turn Arrow Thermo Plastic	0	LF		
	Left Turn Arrow Thermo Plastic	2	LF		
	Combo Straight/Right Turn Arrow Thermo Plastic	2	LF		
	4" wide Thermo Plastic double yellow lines	1,398	LF		
	8" Crosswalk lines Thermo Plastic	1	EA		
	Stop Bar Thermo Plastic	1	EA		
<b>PAVEMENT MARKINGS - Rogers Road</b>					
	Traffic control for Rogers Road work	1	LS		
	Remove existing pavement markings on Rogers Rd as noted on plans	1	LS		
	4" wide Thermo Plastic lane lines	250	LF		
	4" wide Thermo Plastic double yellow lines	450	LF		
	4" wide Thermo Plastic edge lines	110	LF		
	4" wide Thermo mini skips (3by9)	330	LF		
	8" wide Thermo Plastic diagonal lines	60	LF		
	12" wide Thermo Plastic cross walk lines	260	LF		
	24" wide Thermo Plastic stop bar	110	LF		
	Thermo Plastic high visibility crosswalk	1	LS		
	Thermo Plastic lane symbols(left, thru, thru&right)	6	EA		
<b>Landscaping</b>					
	Metal Fencing for Wet Pond #1	485	LF		
	Stormwater trees for Wet Pond #1	22	EA		
	Stormwater basin plants Wet Pond #1	57	EA		
	Littorial shelf planting for Wet Pond #1	1	LS		
	Littorial shelf planting for Wet Pond #2	1	LS		
	Final seeding and mulching for roadway	3	AC		
<b>Traffic Signal with wood poles</b>					
1705	PEDESTRIAN SIGNAL HEAD (16", 1SECTION W/COUNTDOWN)	EA	8		
1705	SIGNAL CABLE	LF	2720		
1705	VEHICLE SIGNAL HEAD (12", 1 SECTION)	EA	0		
1705	VEHICLE SIGNAL HEAD (12", 3 SECTION)	EA	12		
1710	MESSENGER CABLE (3/8")	LF	350		
1715	UNPAVED TRENCHING (1 conduit, 2 inch)	LF	720		
1715	UNPAVED TRENCHING (3 conduits, 2 inch)	LF	20		
1715	UNPAVED TRENCHING (4 conduits, 2 inch)	LF	20		
1716	JUNCTION BOX (STANDARD SIZE)	EA	9		
1720	WOOD POLE	EA	4		
1721	GUY ASSEMBLY	EA	8		
1722	1" RISER WITH WEATHERHEAD	EA	1		
1722	2" RISER WITH WEATHERHEAD	EA	7		
1725	INDUCTIVE LOOP SAWCUT	LF	900		
1726	LEAD-IN CABLE (14-2)	LF	3300		
1743	TYPE II PEDESTAL WITH FOUNDATION	EA	8		
1750	SIGNAL CABINET FOUNDATION	EA	1		
1751	DETECTOR CARD (TYPE 170)	EA	6		
1751	CONTROLLER WITH CABINET (TYPE 2070E, BASE MOUNTED)	EA	1		
1753	CABINET BASE EXTENDER	EA	1		
	TRAFFIC CONTROL FOR SIGNAL INSTALLATION	LS	1		
<b>TOTAL BASE BID</b>					

**ITS Signals Unit  
Engineer's Estimate  
For Metal Strain Poles**

ALTERNATE BID FORM

**ALTERNATE BID # 1 TRAFFIC SIGNAL INSTALLATION WITH STEEL STRAIN POLES**

ITEM	ITEM TYPE	ITEM DESCRIPTION	UNITS	QUANTITY	UNIT PRICE	TOTAL PRICE
7048500000-E	1705	PEDESTRIAN SIGNAL HEAD (16", 1SECTION W/COUNTDOWN)	EA	8		
7060000000-E	1705	SIGNAL CABLE	LF	2720		
7120000000-E	1705	VEHICLE SIGNAL HEAD (12", 3 SECTION)	EA	12		
7264000000-E	1710	MESSENGER CABLE (3/8")	LF	350		
7300000000-E	1715	UNPAVED TRENCHING (1 conduit, 2 inch)	LF	720		
7300000000-E	1715	UNPAVED TRENCHING (3 conduits, 2 inch)	LF	20		
7300000000-E	1715	UNPAVED TRENCHING (4 conduits, 2 inch)	LF	20		
7324000000-N	1716	JUNCTION BOX (STANDARD SIZE)	EA	9		
7444000000-E	1725	INDUCTIVE LOOP SAWCUT	LF	900		
7456000000-E	1726	LEAD-IN CABLE (14-2)	LF	3300		
7576000000-N	SP	METAL STRAIN SIGNAL POLE	EA	4		
7613000000-N	SP	SOIL TEST	EA	4		
7614100000-E	SP	DRILLED PIER FOUNDATION	CY	24		
7630000000-N	SP	METAL STRAIN POLE DESIGN	EA	4		
7642200000-N	1743	TYPE II PEDESTAL WITH FOUNDATION	EA	8		
7684000000-N	1750	SIGNAL CABINET FOUNDATION	EA	1		
7744000000-N	1751	DETECTOR CARD (TYPE 170)	EA	6		
7696000000-N	1751	CONTROLLER WITH CABINET (TYPE 2070E, BASE MOUNTED)	EA	1		
7901000000-N	1753	CABINET BASE EXTENDER	EA	1		
		TRAFFIC CONTROL FOR SIGNAL INSTALLATION	LS	1		
<b>TOTAL ALTERNATE BID SIGNAL WITH STEEL POLES</b>						\$ -

**ALTERNATE BID # 2 PORTABLE ROCK CRUSHER TO CRUSH EXCAVATED ROCK AND BOULDERS AND USE CRUSHED STONE AS FILL MATERIAL. ROCK MUST BE CRUSHED SO THAT THE MAX SIZE OF AGGREGATE IS 2" AND LESS.**

ITEM	ITEM DESCRIPTION	UNITS	QUANTITY	UNIT PRICE	TOTAL PRICE
ALTERNATE BID # 2	PROVIDE PORTABLE ROCK CRUSHER FOR GRANITE FALLS BLVD.AND PLACE CRUSHED ROCK IN FILL AREAS ALONG ROADWAY AND COMPACT. ROCK VOLUME IS ESTIMATED AND MAY VARY	CY	2000		
<b>TOTAL ALTERNATE BID FOR ROCK CRUSHING</b>					\$ -



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Seals

Project

**GRANITE FALLS BOULEVARD**  
ROLESVILLE, NC

Client

**TOWN OF ROLESVILLE**  
502 SOUTHTOWN CIRCLE  
ROLESVILLE, NC 27571

Approvals

**LEGEND**

BM	BOOK OF MAPS	EIP
DB	DEED BOOK	
PG	PAGE	
N/F	NOW OR FORMERLY	
R/W	RIGHT OF WAY	
EIP	EXISTING IRON PIPE	
EMAG	EXISTING MAG NAIL	
IPS	IRON PIPE SET	
MAGS	MAG NAIL SET	
CP	COMPUTED POINT	
SS	SANITARY SEWER	
CO	SANITARY SEWER CLEAN OUT	
MH	MANHOLE	
HC	HANDICAP	
GL	GROUND LIGHT	
CB	STORM CATCH BASIN	
WV	WATER VALVE	
RCP	REINFORCED CONCRETE STORM PIPE	
CONC	CONCRETE	
SSMH	SANITARY SEWER	
WM	WATER METER	
LP	LIGHT POLE	
GM	GAS METER	
TP	TELEPHONE PEDESTAL	
FH	FIRE HYDRANT	
PP	POWER POLE	
EMH	ELECTRIC MANHOLE	
STMH	STORM MANHOLE	
[Symbol]	DENOTES CONCRETE	
[Symbol]	DENOTES ADDRESS	
[Symbol]	DENOTES BRICK	
[Symbol]	PROPERTY LINE	
[Symbol]	RIGHT OF WAY LINE	
[Symbol]	PROP. LINE NOT SURVEYED	
[Symbol]	EASEMENT LINE	

[Symbol]	CB	[Symbol]	FH	[Symbol]	LP	[Symbol]	WV	[Symbol]	SSMH
[Symbol]	GW	[Symbol]	MW	[Symbol]	PP	[Symbol]	TP	[Symbol]	GM

Drawing Title

**BIKE LANE STRIPING PLAN**

Revisions

Number	Description	Date

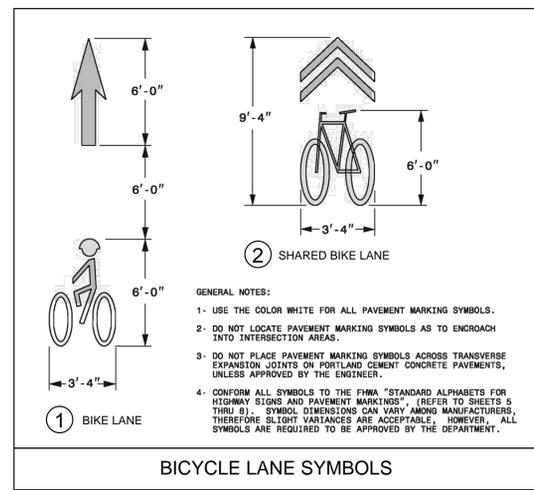
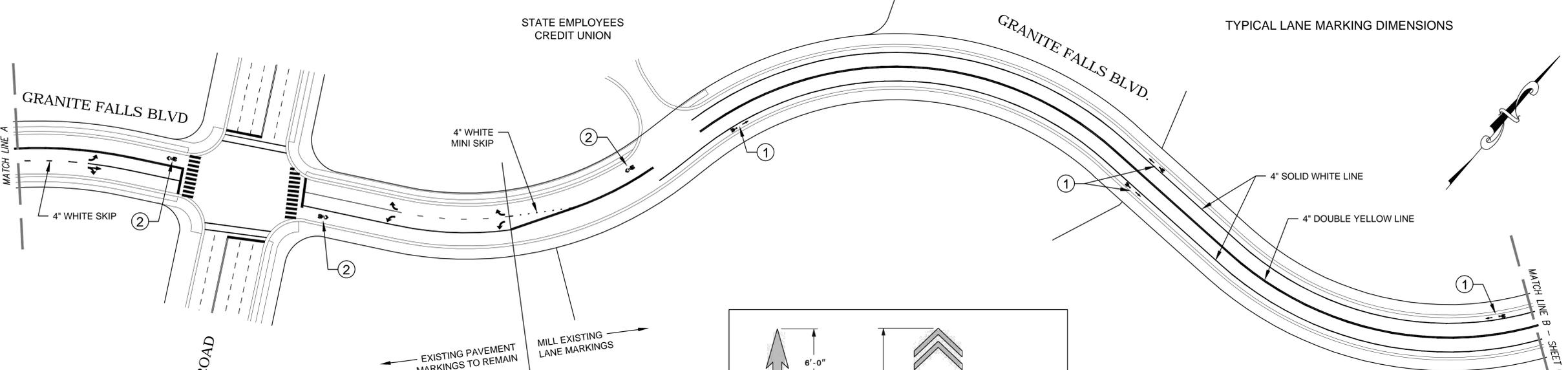
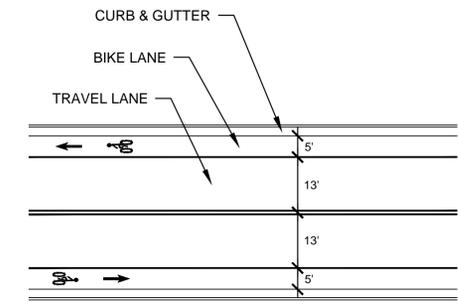
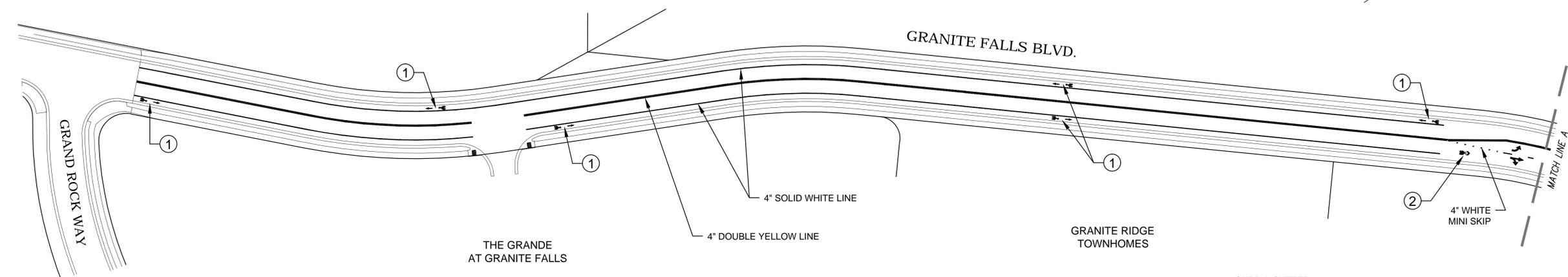
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Drawn By RT

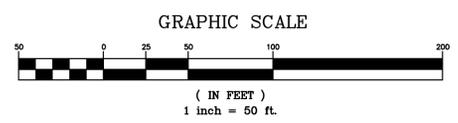
Checked By JAE, Jr.

Date Issued 10/XX/18

C-1



NOTE: ALL STRIPING TO CONFORM TO NCDOT STANDARDS AND SPECIFICATIONS.



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**BIKE LANE STRIPING PLAN**

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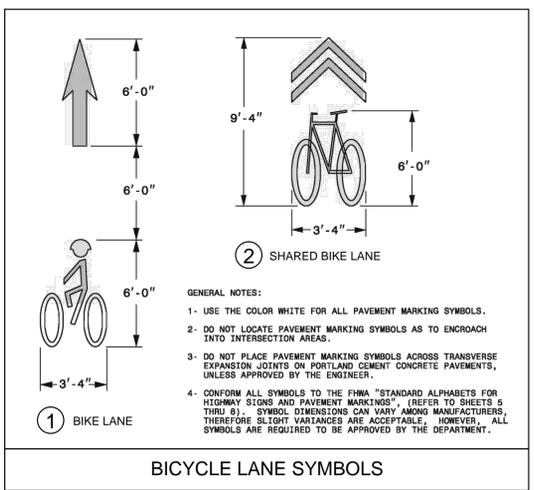
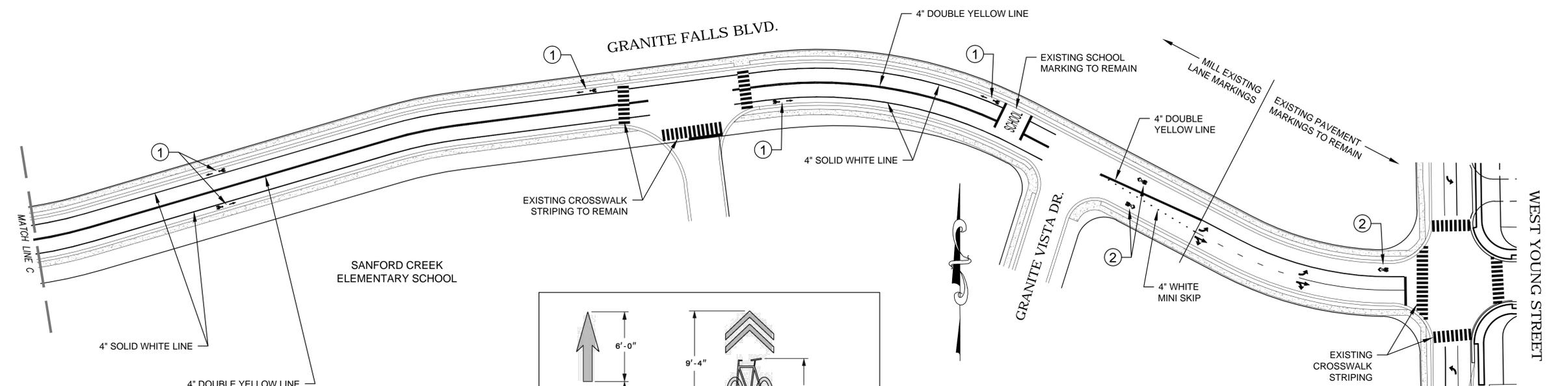
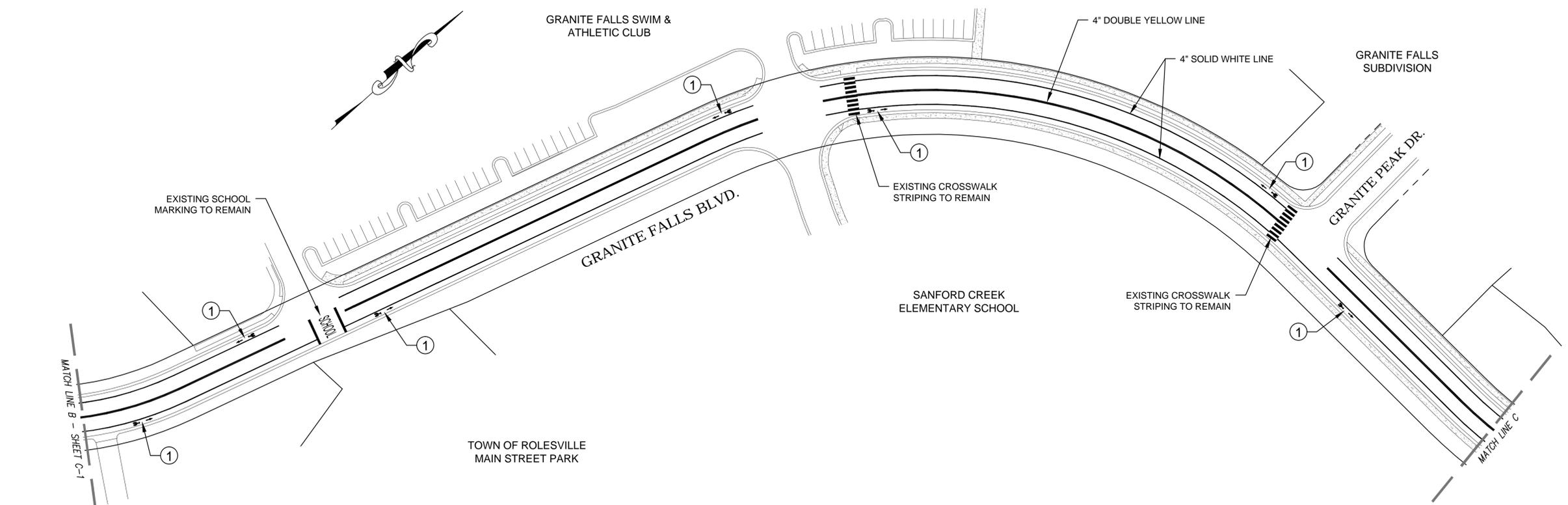
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Drawn By RT

Checked By JAE, Jr.

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C-2



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